3. Detectors—nonlinear circuit elements. Theory of small signal detection. Square law detectors—The crystal, grid-leak, anode regenerative and super-regenerative detectors—harmonic distortion—super heterodyne detection and its merits—large signal detection—the diode detector. Rectification—smoothing filters and power supply systems.
4. Amplifiers—R.C. choke coupled and transformer-coupled amplifiers for audio frequencies—class A and class B amplifiers—Pushpull amplifiers—Distortion in amplifiers—Tone control. Optimum load impedance—Frequency response of A.F. and R.F. amplifiers. Negative feed back—Power amplifiers, expandors, compressors and compandors.
5. RF amplifiers—theory and design—Class C amplifiers neutralisation and frequency multiplication. Efficiency.
6. Oscillators—spark and arc—Alexanderson alternators—Vacuum tube oscillators—Inductively and capacitively coupled oscillators—Hartly and Colpitt's circuits. Self-capacitance coupled oscillators—Negative resistance oscillators—Multivibrators—Impedance and crystal controlled frequency stabilisation—Pulse oscillators. V. H. F. oscillators—Magnetron and Klystrons and positive grid oscillators—V. H. F. oscillators using specially designed triodes—Acorn type and Light-house type tubes.
7. Modulation—Amplitude, frequency and phase modulation. Carrier suppressed and single side band transmission—Frequency distortion and width. Signal to noise ratio and modulator power of A.M. and F.M. systems. Detection of F.M. signals.
8. Electro accustic transducors—carbon-granule-moving coil—ribbon—condenser and crystal microphones. Pressure and pressure gradient actuated systems. Impedance, decibel sensitivity and frequency response of microphones. Directional, bi-directional and non-directional types. Loud speakers. Moving magnet, moving coil and crystal speakers-horns baffles and pick ups.
9. Typical superheterodyne receiver. Typical broadcast transmitter—Crystal controlled class B modulated pushpull class C amplifier system.
10. Cathode ray oscillographs and their applications. Elements of Television—Photoelectric cells and their applications.

SPECTROSCOPY—PAPER I

Planck's Quantum Theory.
Bohr's Atom.
Sommerfeld's elliptic orbits. Space quantisation.
Wave mechanics of the hydrogen atom.
Critical and Ionisation potentials.
Penetrating and non-penetrating orbits
Doublet fine structure.
Fine structure of spectral lines.
Arc and spark spectra.
Pauli's exclusion principle.
Zeeman effect.
Paschen Back effect.
Dynamical model of the atom for two and more than two electrons.
Zeeman effect in complex spectra.
Stark effect.
Iso-electronic sequences.

SPECTROSCOPY—PAPER II

Width of spectral lines.
Hyperfine structure.
Nuclear structure, from h. f. s. and band spectra.
Molecular spectra.
Infra-red spectra.
Light scattering and Raman effect.
Spectrographs and high resolving power instruments.
Forbidden lines.
Intensities of spectral lines.
Saha's theory of ionisation.
Resonance radiation.
Discharge of electricity through gases.
The Electro-magnetic Field. The electron theory.
Optical spectra.
Light scattering.
Thermionics.
Photo-electricity.
The metallic state.
Magnetic properties of atoms and molecules.
Low temperature phenomena.
Dipole moments.
X-rays. Cosmic radiation.
Radio-activity.
Nuclear physics.
Electric oscillations and waves.
Special theory of relativity.
Elements of quantum mechanics.

(*Letter No. E. 10541, dated 31-1-1952 from the Educational Secretary to Government, Bangalore.*)

[The revised syllabus will be given effect to from the examination of 1953]

Notification dated 5—7th June 1952.

Subject—Award of Master's Degree Scholarships.

No. Ex. 5-249—52-53. Applications are invited for the award of ten scholarships of the value of Rs. 100 each per month, tenable for ten months in the years 1952-53-54, to the best qualified B.A., B.Sc., and B.Com., graduates of Backward Communities of the University of Mysore for qualifying themselves for the Master's Degree in other Indian Universities. The award of the scholarships will be subject to the condition that in case the selected candidate does not complete the course successfully he/she must refund the amount of the scholarship received.

Applications should contain the following particulars :—

1 Name ... ...
2 Caste ... ...
3 Address ... ...
4 Examinations passed :—
  (a) Reg. No. ... ...
  (b) Year ... ...
  (c) Class ... ...
5 Subject selected for the course ... .
6 Name of the University in which the Candidate desires to study. .....

Applications may be sent to the Registrar, University of Mysore, so as to reach him on or before 20th June 1952. The covers must be superscribed "*Application for the Master's Degree Scholarship*".

Selected candidates will have to make their own arrangements to secure seats in other Indian Universities where they wish to study.

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Notification dated 3rd June 1952.

No. R.1-85—52-53. Applications for admission to the University Institutions will be received by the Heads of Institutions as follows :—

In respect of all Degree courses ...	15th June 1952.
In respect of the Intermediate courses and the Medical School.	20th June 1952.

Applications received after the last dates mentioned above will not be entertained.

Applications must be accompanied by the leaving certificate and other specified certificates as well as a certified statement of marks obtained at the qualifying examination passed, showing the year or years of passing.

"Copies of marks cards and leaving certificates certified by a Gazetted Officer may be attached to the Application by students who apply for admission to more than one College." The originals should be produced at the time of joining the College.

Candidates coming from a University other than the Mysore University must produce a migration certificate in addition to the above certificate.

Forms of application may be had from the Heads of Institutions concerned. Every application for admission to a College should be accompanied by a fee of one rupee and this will in no case be refunded. Those who want to get the application forms by post must send the requisite postal or a self addressed postal envelope to the Heads of Institutions concerned.